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ABSTRACT

The creation of the Virginia Tech Teleport Facility and the installation of a nine-meter (diameter) C-Band satellite uplink antenna provided the initial impetus for the Virginia Cooperative Extension Service (VCES) to explore the use of satellite technology for information and program delivery. The $600,000 uplink became operational in September 1986; the first campus broadcast was an extension staff development teleconference, directed towards field staff, covering the programming process model to be used in developing the next 4-year plan of work. The uplink site presently provides two broadcast-quality video signal channels for transmitting television signals from Blacksburg. When fully developed, the teleport will include antenna support structures, facilities for housing electronic equipment, and accommodations for 12 to 15 satellite dishes. Planned for the fall of 1987 are a KU-Band satellite transmission/receiving station, a 20-meter Simulsat C-Band receiving station, and a C-Band transmit/receive earth station for transmission of radio programming. In addition, 41 downlink sites will be located in local extension offices, 4-H continuing education centers, district offices, and research stations. During the spring and summer of 1987, 42 faculty members from Virginia Tech and Virginia State participated in training sessions on teleconferencing. From April through October 1987, VCES produced 16 teleconferences, totaling 25 half-hours of broadcasting. Eleven hours of the total broadcast time were devoted to extension agents as the primary audience. Plans are being made for additional educational programming for extension agents and volunteers. (KC)

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Telelearning For Extension Agents: The Virginia Experience

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INTRODUCTION

The mission of the Virginia Tech Extension Division is to provide practical information to the people of the Commonwealth to improve their economic, social and cultural well-being. A primary purpose within the mission is to select, interpret, disseminate and encourage application of relevant research. Educational programs are planned and conducted through the Virginia Cooperative Extension Service using resources from both Virginia Tech and Virginia State Universities, and the Virginia Tech Continuing Education Program.

The Virginia Cooperative Extension Service (VCES) has a statewide mission for educational programs in agriculture and natural resources, home economics, 4-H youth, and community resource development. Assistance is provided through individual contacts, group meetings, and electronic communication, and is directed toward individuals, business, industries, communities, and governments. Programs are supported by faculty at Virginia Tech and Virginia State Universities, and delivered by Extension staff located in 107 county and city units across the Commonwealth.

There is certainly nothing new about telelearning, video teleconferencing, and extended learning using television. However, application of this educational technology is relatively new to Extension work. Interest in this whole area has been re-kindled because of the widespread popularity of certain technologies, such as VCR's, and inexpensive home earth stations, or backyard satellite dishes. Couple this with the fact that people are demanding extended learning opportunities at a time and place convenient to their lifestyles. Of course, Extension's interest is not only in direct programming to specific clientele groups and the general public, but to provide staff development opportunities for our Extension agents as well.

THE SYSTEM

The creation of the Virginia Tech Teleport Facility, and the installation of a 9-meter (diameter) C-Band satellite uplink antenna provided the initial impetus for VCES explore the usage of satellite technology for information and program delivery. The $600,000 uplink became operational in September, 1986. Interestingly enough, the first campus broadcast was an Extension staff development teleconference, directed towards field staff, covering the Programming Process model to be used in developing

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the next four year plan of work.

The uplink site presently provides two, broadcast-quality, video signal channels for transmitting NTSC standard television signals from Blacksburg. The broadcasts usually originate from the studio or one of two electronic classrooms in Whittemore Hall on campus, and are microwaved to the uplink site located at the Corporate Research Park, approximately four miles away. In the very near future, the Teleport will be connected to the campus by fiber optics.

When fully developed, the teleport will include antenna support structures, facilities for housing electronic equipment, and accommodations for 12 to 15 satellite dishes. Planned for the fall of 1987 are a KU-Band satellite transmission/receiving stations, a 20 meter Simulsat C-Band receiving station (which will be the primary feed to the campus cable system, and a C-Band transmit/receive earth station for transmission of radio programming.

In the summer of 1986, approval was given by the Extension administration to fund the placement of 25 downlink sites (at least one per planning district), to be located in local Extension offices, 4-H Continuing Education Centers, District Offices, and research stations. Sixteen additional downlink sites were proposed, approved, and will be operational by late fall, 1987. Of the 41 downlink sites located across the Commonwealth, three are located in district offices, four in the 4-H Continuing Education Centers, four in research stations, and 30 in local Extension offices.

In addition to geographic considerations, the following criteria were used in site selection: a classroom space that could accommodate 15-25 people, locally controlled by the Extension office, or easily accessible to Extension; room location within 100 feet of the dish location; phone in the room, or nearby access; and district approval of each site. Each downlink site was also provided with a 25 inch color monitor, a monitor stand, and a VCR.

Specifically, each site was equipped with a 9 foot (diameter) Beechcraft dish and mount, with hardware and installation running between $1600 to $2500 per site, depending on the location. Each viewing room received a Mitsuibishi 25" color monitor ($515.00), a Sharp XA/111oHQ VCR ($397.00), and a 54" Television Table, Bretford Model T54E ($90.00). Total site costs ranged from $2602.10 to $3300.00. These figures are realistically low, due to large volume purchases of hardware, which included handsome educational discounts. Communication Network Services (CNS), a support component of the University, provided the installation services at prices below commercial rates.

FACULTY TRAINING

During the spring and summer of 1987, 42 faculty members from Virginia Tech and Virginia State participated in training sessions on teleconferencing. The basic outline of the program consisted of: an overview of the Satellite Project, teleconference decision-making process, program development, production/program tools, interaction, and on-site support materials.

Selecting satellite broadcasting as an educational delivery methodology was covered at great length. Best uses of teleconferencing included: on-site teaching and training, delivering information to a geographically dispersed audience, maximizing staff expertise and limited resources, and selecting highly visual topics. Program development was briefly touched on, and included identifying the problem, audience definition, formulating objectives, examining available resources, and selecting the teleconference format (lecture, workshop, interview, panel).

Production and programming tools were discussed in depth, emphasizing the large lead time needed to produce such supporting materials. Specifics included: pre-produced graphics such as photos and slides, slide/tapes and filmstrip, overheads, computer-generated graphics, audio materials, and video footage. In addition, since the present capabilities of the studios are for one-way video, two-way audio, the idea of how to plan for audience interaction was covered.

The idea of on-site support materials was stressed, emphasizing that the quality of the wrap-around meeting at the downlink site was critical to a successful learning experience. Various educational materials and other visual supports at the reception site are a major contributing factor to the success of a broadcast.

All participating faculty were required to prepare some visuals, and do a three to five minute presentation in the electronic classroom. Presentations were videotaped, and critiqued by the program participants. Finally, a Teleconference Planning Checklist, developed by the television unit of George Washington University, was handed out to each participant.

PRODUCTION COSTS

Some reasonable estimates of production cost are as follows:

Uplink from Va. Tech.....$100/hr
* Satellite Transponder time.....$159/hr
(Galaxy 2, channel 5)

Production Costs (University Rate**)

Computer Generated Graphics.....$25/hr
Editing (varies, depending on type).....$30 - $195/hr
Studio prep.....$50/hr
Electronic Classroom.....$100/hr
Full Studio.....$250/hr

* Satellite transponder rate based on contract the Department of Information Technology (Commonwealth of Virginia) has with Hughes Communication, Inc. Virginia Tech is presently doing about 35 hours a week of broadcasting Graduate Engineering Classes, Extension teleconferences, and other minor ad hoc broadcasting.

**There is a commercial surcharge of 50% for outside organizations, agencies, and others.

PROGRAMMING EXAMPLES

From April 13, 1987, through October 13, VCES has produced 16 teleconferences, totaling 25 1/2 hours of broadcasting. Eleven hours of that total broadcast time has been directed to Extension agents as the primary audience. This took the form of a series of "Marketing Updates", covering the major grain commodities, cattle and hogs. This series was part of a total educational effort that had a three week in-service component to it, as well as a computer network component that allowed agents to receive daily market information and chart various commodities.

Other programming included broadcasts on "Marketing Lambs in Virginia", "Biological Control of Insects", "An Introduction to the Master Gardener", and "Lean Meats for the Health-Conscious Consumer". There were also learning experiences directed to the non-paid professional VCES staff, our program volunteers. Those programs consisted of: "4-H Congress Orientation/Leader Training, "Extension Homemakers Leadership Teleconference on Family Living", and "4-H Embryology Project Leader Training".

SUMMARY

The vision, and now the reality, of Virginia Tech developing its own multipurpose satellite communication network has afforded the Virginia Cooperative Extension Service (VCES) numerous opportunities to explore the areas of information dissemination, educational program delivery, and staff development.

Since April 13, 1987, VCES has produced 16 video teleconferences, with over half of the total broadcast hours directed primarily to Extension Agents. Other telelearning experiences have been targeted to the program volunteers of VCES. Plans are being developed, and staff are being targeted to receive organizational updates, "crisis-type" updates, subject-matter updates, mini-courses conducted by Extension specialists, and graduate class offerings.

REFERENCES

Widner, Doug. Teleguide: A Handbook on Video-Teleconferencing. Public Service Satellite Consortium. Washington, D.C. 1986

"Virginia Extension...Toward The Year 2000". Virignia Cooperative Extension Service. Blacksburg, Va. 1986

"Teleconference Planning Checklist". G.W. Television Unit. Division of Continuing Education, The George Washington University.

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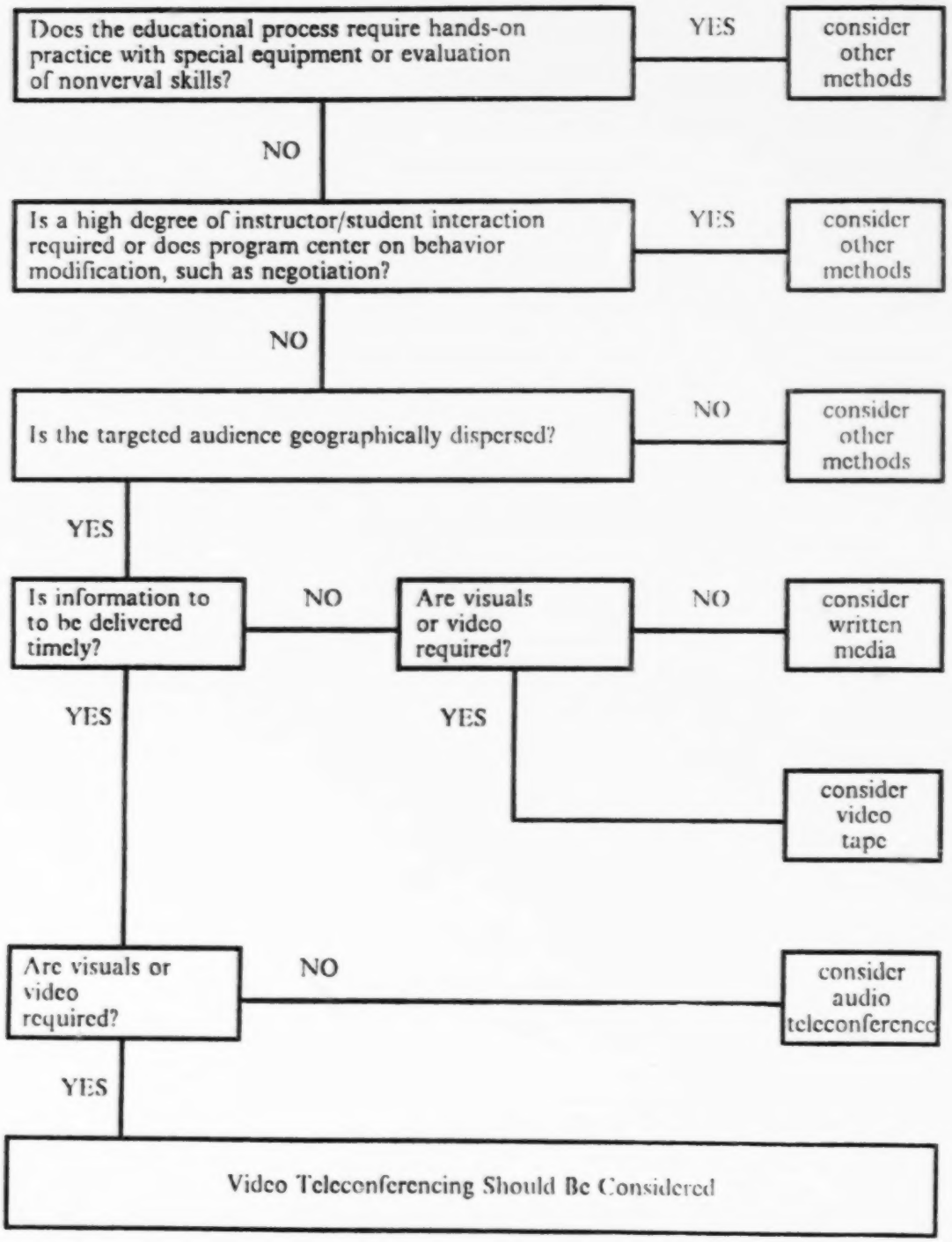
Selection Flow Chart for Video Teleconferencing



John Moore, Tom McAnge
Virginia Tech 1986
Adapted from Reiser and Gagne, Selecting Media for Instruction, 1983